

Official

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IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier listings and all earlier versions.

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C1
1. ~~(Currently Amended) An image synthesis method comprising:~~
a placement information obtaining step₁ of obtaining placement information about a plurality of images in which adjacent images have a common subject region;
a setting step₁ of setting one mapping mode out of a plurality of mapping modes each corresponding to a different mapping surface in accordance with said obtained placement information; and
a synthesis step₁ of combining said plurality of images by using the mapping mode set in said setting step₁;
a changing step₁ of changing the mapping mode; and
a generating step₁ of issuing, when an image formed by changing the mapping mode in said changing step does not comply with a predetermined condition set in accordance with the mapping mode, a warning and generating a synthesized image in accordance with the predetermined condition.
- B.
2. (Currently Amended) An image synthesis method according to Claim 1, further comprising:
a focal length obtaining step of obtaining focal length information of each of the images;

wherein the mapping mode in accordance with the focal length information and the placement information is used in said synthesis step.

3. - 4. (Canceled).

5. (Currently Amended) An image synthesis method according to Claim 1, further comprising a displaying step of displaying a cuttable rectangular region without a margin in the synthesized image.

B1
6. (Currently Amended) An image synthesis apparatus comprising:
placement information obtaining means for obtaining placement information about a plurality of images in which adjacent images have a common subject region;
setting means for setting one mapping mode out of a plurality of mapping modes each corresponding to a different mapping surface in accordance with said obtained placement information; and

synthesis means for combining said plurality of images by using the mapping mode set by said setting means;

generating means for issuing, when an image formed by changing the mapping mode by said changing means does not comply with a predetermined condition set in accordance with the mapping mode, a warning and generating a synthesized image in accordance with the predetermined condition; and

display means for displaying a cuttable rectangular region without a margin in the synthesized image.

7. (Currently Amended) An image synthesis apparatus according to Claim 6, further comprising:

focal length obtaining means for obtaining focal length information of each of the images;

wherein said synthesis means uses the mapping mode in accordance with the focal length information and the placement information.

8. (Original) An image synthesis apparatus according to Claim 6, further comprising changing means for changing the mapping mode.

9. - 10. (Canceled).

11. (Currently Amended) A computer-readable storage medium having recorded thereon a program for implementing a computer-implementable image synthesis method for combining a plurality of images, said program comprising:

a placement information obtaining step, of obtaining placement information about a plurality of images in which adjacent images have a common subject region;

a setting step, of setting one mapping mode out of a plurality of mapping modes each corresponding to a different mapping surface in accordance with said obtained placement information; and

a synthesis step, of combining said plurality of images by using the mapping mode set in said setting step;

a changing step, of changing the mapping mode; and

a generating step, of issuing, when an image formed by changing the mapping mode in said changing step does not comply with a predetermined condition set in accordance with the mapping mode, a warning and generating a synthesized image in accordance with the predetermined condition.

12. (Currently Amended) A computer-readable storage medium according to Claim 11, said program further comprising:

a focal length obtaining step, of obtaining focal length information of each of the images;

wherein the mapping mode in accordance with the focal length information and the placement information is used in said synthesis step.

13. (Currently Amended) A computer-readable storage medium according to Claim 11, said program further comprising a changing step, of changing the mapping mode.

14. (Currently Amended) An image synthesis method conforming to a plurality of mapping transformation modes, comprising:

a setting step, of setting one mapping mode out of a plurality of mapping modes each corresponding to a different mapping surface;

a generation step, of generating, prior to synthesizing a plurality of input images, coordinate-space transformation parameters for transforming a coordinate space of one image among the images into a coordinate space of another image; and

an image synthesis step, of combining the images based on a given mapping mode and the coordinate-space transformation parameters; and

a changing instruction step, of issuing a mapping/mode changing instruction.

wherein, in said image synthesis step, coordinate information parameters set for each of the mapping modes are changed and the input images are again combined in accordance with the changing instruction issued in said changing instruction step.

15. (Canceled).

16. (Currently Amended) An image synthesis method according to Claim 14, further comprising:
a reference position setting step, of arbitrarily setting a reference position of a synthesized image;

wherein, in said image synthesis step, the images are combined in accordance with the reference position set in said reference position setting step.

17. (Currently Amended) An image synthesis method according to Claim 14, further comprising a storage step, of storing a generated panoramic synthesized image, and coordinate transformation parameters and the coordinate-space transformation parameters, which are used for generating the panoramic synthesized image, every time the synthesized image is generated in said image synthesis step.

18. (Currently Amended) An image synthesis apparatus conforming to a plurality of mapping transformation modes, comprising:

setting means for setting one mapping mode out of a plurality of mapping modes each corresponding to a different mapping surface;

generating means for generating, prior to synthesizing a plurality of input images, coordinate-space transformation parameters for transforming a coordinate space of one image among the images into a coordinate space of another image; and

image synthesis means for combining the images based on a given mapping mode and the coordinate-space transformation parameters; and

changing means for changing the mapping mode.

wherein said image synthesis means changes coordinate transformation parameters set for each of the mapping modes and again combines the input images in accordance with a mapping mode changing instruction.

19. (Canceled).

20. (Currently Amended) An image synthesis apparatus according to Claim 18, further comprising:

reference position setting means for arbitrarily setting a reference position of a synthesized image;

wherein said image synthesis means combines the images in accordance with the reference position set by said reference position setting means.

21. (Original) An image synthesis apparatus according to Claim 18, further comprising storage means for storing a generated panoramic synthesized image, and coordinate transformation parameters and the coordinate-space transformation parameters, which are used for generating the panoramic synthesized image, every time the synthesized image is generated by said image synthesis means.

22. (Currently Amended) A computer-readable storage medium having recorded thereon a program for implementing a computer-implementable panoramic image synthesis method conforming to a plurality of mapping transformation modes, said program comprising:

b1 a setting step₁ of setting one mapping mode out of a plurality of mapping modes each corresponding to a different mapping surface;

a generating step₂ of generating, prior to synthesizing a plurality of input images, coordinate-space transformation parameters for transforming a coordinate space of one image among the images into a coordinate space of another image; and

an image synthesis step₃ of combining the images based on a given mapping mode and the coordinate-space transformation parameters; and

a changing instruction step₄ of issuing a mapping mode changing instruction.

wherein, in said image synthesis step, coordinate information parameters set for each of the mapping modes are changed and the input images are again combined in accordance with the changing instruction issued in said changing instruction step.